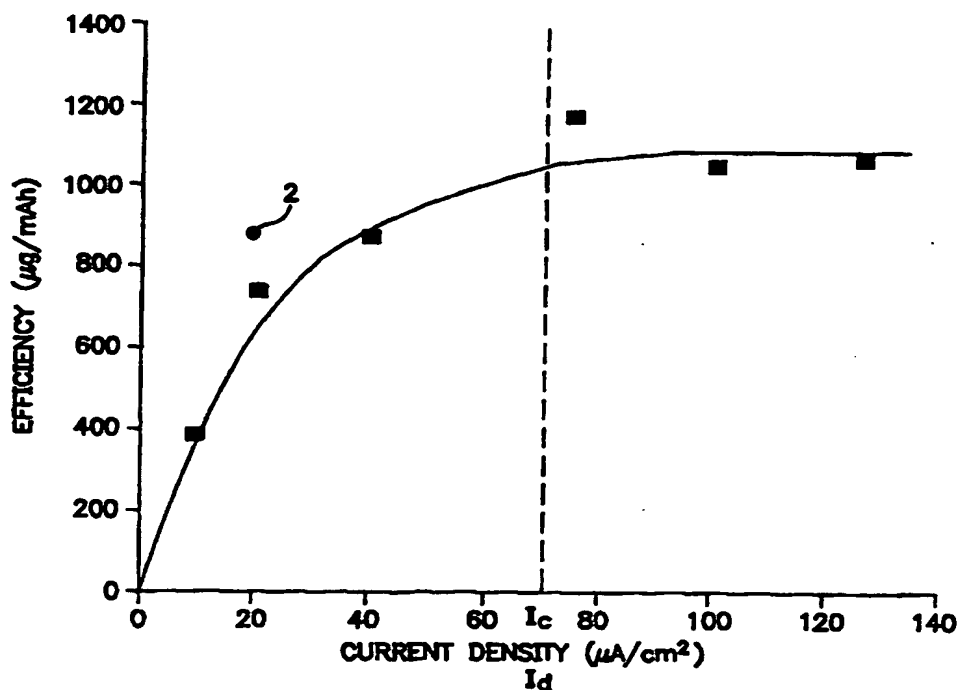




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(21) International Application Number: PCT/US96/09989 (22) International Filing Date: 7 June 1996 (07.06.96) (30) Priority Data: 08/483,069          7 June 1995 (07.06.95)          US (71) Applicant (for all designated States except US): ALZA CORPORATION [US/US]; 950 Page Mill Road, P.O. Box 10950, Palo Alto, CA 94303-0802 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): PHIPPS, J., Bradley [US/US]; 5309 Ximines Lane, Plymouth, MN 55442 (US). LATTIN, Gary, A. [US/US]; 6927 145th Avenue, Forest Lake, MN 55025 (US). HAAK, Ronald, P. [US/US]; 2647 Alpine Road, Menlo Park, CA 94025 (US). THEEUWES, Felix [BE/US]; 27350 Altamont Road, Los Altos Hills, CA 94022 (US). GUPTA, Suneel [IN/US]; 4028 Farm Hill Road, No. 5, Redwood City, CA 94061 (US). (74) Agents: MILLER, D., Byron et al.; Alza Corporation, 950 Page Mill Road, P.O. Box 10950, Palo Alto, CA 94303-0802 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	

(54) Title: ELECTROTRANSPORT AGENT DELIVERY METHOD AND APPARATUS



(57) Abstract

An electrotransport agent delivery device (10) for delivering a therapeutic agent through intact skin, and a method of operating same, is provided. The device applies a pulsing electrotransport current wherein current pulses have a magnitude above a critical level ( $I_c$ ) at which the skin is transformed into a higher electrotransport delivery efficiency (E) state. Most preferably the length of the applied current pulses is at least 5 msec and preferably at least 10 msec.

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